

APPENDIX D

Glossary

This glossary was prepared with the aid of the following volumes: M. W. Bernowitz, Handbook for Prospectors and Operators of Small Mines (N. Y., N. Y.: McGraw-Hill Book Company, Inc., 1943); Brooke Hindle, ed., America's Wooden Age: Aspects of its Early Technology (Tarrytown, N. Y.: Sleepy Hollow Restorations, 1975); Dictionary of Geological Terms (Garden City, N. Y.: Doubleday and Company, Inc., 1962); Webster's New International Dictionary of the English Language, second edition (Springfield, Mass.: G & C Merriam Company, 1944); Otis E. Young, Jr., Western Mining (Norman, Oklahoma: University of Oklahoma Press, 1970).

Amalgamation. Process of extracting gold from its ore by the addition of small quantities of mercury during grinding or stamping. The mercury joins with the gold in an amalgam or alloy, from which the gold may be recovered by distilling off the mercury.

Arrastra. Crude machine for grinding ore and amalgamating gold. Consists of a heavy stone dragged around on a circular bed.

Breast waterwheels. Type of waterwheel commonly used at falls of between 6 and 10 feet. Breast wheels combined both the weight and impulse of the water for their operation.

Chilean mill. Type of grinding mill composed of vertical rollers running in a circular enclosure with a stone or, later, iron base.

Chlorination. Method of extracting gold from its ore by treatment with chlorine gas. The gold is then removed from the chloride compound.

Cob. To break the ore with hammers in such a manner as to separate the dead or worthless parts.

Concentration. Physical removal of gangue material from gold ore to produce ore with an abnormally high gold content.

Cone classifier. Provides further separation of the ore minerals from the gangue by hydraulic movement or by the density of the particles. An example is the Trent hydraulic cone classifier.

Cyanidation. Chemical method of extracting gold from its ore by treatment with a cyanide compound. The dissolved metal is then precipitated from the solution.

Fineness. Measure of the purity of gold. For example, 900 fine

indicates a gold content of 90%.

Flotation. Process of concentration. When crushed ore is mixed with water and oil or chemicals, the minerals float while the worthless material sinks. Gold and silver ores are floatable.

Frue vanner. Apparatus used to upgrade ore by applying a lateral shaking motion to a revolving, ore carrying, rubber belt. Water jets positioned across the belt send out gentle streams of water which wash the gangue particles away while the ore particles collect on the end of the belt.

Gangue. Nonmetalliferous or nonvaluable metalliferous minerals in the ore.

Mill. Further grinds finely crushed ore mixed with water into a pulp which is then sent into the classifiers.

Pennyweight. Measure of weight equivalent to 1/20 of a Troy ounce.

Raise. Shaft driven upwards to connect two levels.

Reduction. Refers to the breaking or crushing and grinding of ore to a size suitable for ore treatment. Also used to describe extracting a metal from a compound, e. g. Iron from Hematite (iron oxide).

Roast. To heat to the point at which sulphur, arsenic, and other elements are driven off from ores but not to the point of fusion.

Rocker. Device used to wash auriferous earth to separate the gold from the nonvaluable material it was found with. The rocker worked on the principle that the high specific gravity of gold would keep it from washing out with the lighter particles.

Stamp mill. Machinery for crushing ore. Utilizes falling weights to crush the ore.

Stope. An underground excavation from which ore has been extracted, either above (overhand) or below (underhand) a level.

Stull. Timber placed in stopes (usually) to support the walls.

Sulfuret. Undecomposed metallic ores, usually sulfides. Chiefly applied to auriferous pyrites. Obsolete.

Tailings. Those portions of washed ore that are regarded as too poor to be treated further. Used especially of the debris from stamp mills or other ore dressing machinery, as distinguished from material (concentrates) that is to be smelted.

Wilfley table. Shaking table which works on the principle of the specific